

IN THE UNITED STATES DISTRICT COURT FOR
THE DISTRICT OF MARYLAND, NORTHERN DIVISION

THE JOHNS HOPKINS UNIVERSITY
AND ARROW INTERNATIONAL, INC., *

Plaintiffs,

v.

DATASCOPE CORPORATION,

Defendant.

CIVIL NOS.: WDQ-05-0759
WDQ-06-2711

* * * * *

REVISED MEMORANDUM OPINION

The Johns Hopkins University ("JHU") and Arrow International, Inc., ("Arrow") have sued Datascope Corporation ("Datascope") for patent infringement. The Court has granted the parties' joint motion for advance claim construction rulings on two disputed claims. The parties' have filed briefs arguing for their respective constructions of the two claims.

I. Background

JHU is the owner of Patents 5,766,191, "Perucutaneous Mechanical Fragmentation Catheter System" (the "191 patent"); 6,824,551, "Perucutaneous Mechanical Fragmentation Catheter System" (the "551 patent"); and 7,108,704, "Percutaneous Mechanical Fragmentation Catheter System" (the "704 patent"). Datascope's Opening Claim Construction Br. ("Datascope Br.") Exs. A-C. The 191 patent was issued on June 16, 1998, the 551 patent

was issued on November 30, 2004, and the 704 patent was issued on September 19, 2006. *Id.* The patents claim methods for fragmenting clots within the vascular system. Arrow is the licensee of the patents and sells a device designed to carry out the methods of the patents. Jan. 18, 2006 Mem. Op.

The parties dispute the meaning of two phrases contained in the claims of the patents at issue and each side has offered its construction:

Term 1: "fragmentation member;"

The plaintiffs' definition: "the part of the device that breaks up the clot."

The defendant's definition: "a means-plus-function term under 35 U.S.C. § 112, ¶ 6, in which the function is 'breaking something into fragments' and the corresponding structure is a basket or cage."

Term 2: "expands to conform to the shape and diameter of the inner lumen."

The plaintiffs' definition: "expands to follow the curvature of the inner lumen (which can be U-shaped) and achieve contact with the walls of the inner lumen."

The defendant's definition: "moves outwardly to form a cage- or basket-like structure that accommodates and fills substantially the entire inner lumen."

Joint Motion for Advance Claim Construction Rulings at 1.

II. Analysis

"[T]he interpretation and construction of patent claims, which define the scope of the patentee's rights under the patent, is a matter of law exclusively for the court. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed.Cir.1995), *aff'd*, 512 U.S. 370 (1996).

A. Standard of Review

It is a "bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*citing Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). In construing a claim, its words "are generally given their ordinary and customary meaning." *Id.* (*citing Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). The ordinary and customary meaning is "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* at 1313.

Although in some cases "the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges," in other cases "determining the ordinary and customary meaning of the claim requires examination of terms that have a particular meaning in a field of art." *Id.* at 1314. In the former situation, claim construction

"involves little more than the application of the widely accepted meaning of commonly understood words" and "general purpose dictionaries may be helpful" in that vein. *Id.* In the latter situation, courts look to: (1) intrinsic evidence, including "the words of the claims themselves, the remainder of the specification, and the prosecution history;" and (2) "extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art." *Id.* (citations omitted).

B. Term One

Datascope argues that the term "fragmentation member" is governed by 35 U.S.C. § 112, ¶ 6, which states:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. § 112, ¶ 6. "[Section] 112, ¶ 6 operates to restrict claim limitations drafted in such functional language to those structures, materials, or acts disclosed in the specification (and their equivalents) that perform the claimed function."

Personalized Media Communications, LLC v. Internat'l Trade Comm'n, 161 F.3d 696, 703 (Fed. Cir. 1998).

"[U]se of the word 'means' creates a presumption that § 112, ¶ 6 applies" and "the failure to use the word 'means' creates a

presumption that § 112, ¶ 6 does not apply." *Id.* at 703-04. Datascope concedes that the word "means" is not used. Datascope Br. at 25. The presumptions, however, "can be rebutted if the evidence intrinsic to the patent and any relevant extrinsic evidence so warrant." *Personalized*, 161 F.3d at 704. "In deciding whether either presumption has been rebutted, the focus remains on whether the claim as properly construed recites sufficiently definite structure to avoid the ambit of § 112, ¶ 6." *Id.*

Considering these principles, the Court concludes that the term "fragmentation member" is a means-plus-function term because the claim does not create a sufficiently definite structure. Although the presumption is against such a finding, the term "member" is a generic structural term like "element" or "device." *See id.* at 705. The term member does not evoke a particular structure or even a limited group of structures. Moreover, the "fragmentation member" has a specific function as described in the claims: expanding and causing fragmentation. Accordingly, it will be limited by § 112, ¶ 6.

As the only structure corresponding to the term "fragmentation member" that is disclosed by the specification is the wire cage or basket the term shall be so limited. *E.g.*, 191 patent, Col. 2 Lns. 62, 65, 67; 191 patent Col. 3 Lns. 4, 10. Similar language is found in the specifications of the other two

patents. Accordingly, a "fragmentation member" is a wire cage or basket (or their equivalents) that breaks up clots.

C. Term Two

As noted above, the second disputed claim term is "expands to conform to the shape and diameter of the inner lumen." As, expand, conform, shape, and diameter are common words, the ordinary meaning of the phrase is readily apparent to the Court. The phrase at issue is part of a broader claim which states that "a fragmentation member . . . automatically expands to conform to the shape and diameter of the inner lumen of the vascular conduit upon deployment of the fragmentation member." 191 patent Cl. 1. The ordinary definition of 'expand' is "to open up" or "to increase the extent, number, volume or scope of." Webster's New Collegiate Dictionary 436 (Merriam-Webster, 1986). To 'conform' is "to give the same shape, outline or contour to" or "to be similar or identical." *Id.* at 276. Thus, the expanding fragmentation member opens up to have the same shape, outline or contour as: (1) the diameter; and (2) the shape of the inner lumen. The specification states that the benefit of the invention is that it can accommodate for changes in the 'dimensions' of the vessel caused by the presence and removal of a thrombus in a three-dimensional vessel. 191 patent Col. 1 Ln. 62-66. Accordingly, the phrase describes the ways in which the fragmentation member changes to be the same as the inner lumen.

As a diameter is a chord passing through the center of a circle, diameter relates to the fragmentation member's expansion in a horizontal cross-section of a vessel. Thus, expanding to conform with the "diameter" means that the fragmentation member, looking at a cross-section, expands in such a way that it contacts the inner lumen in all directions and adjusts for the presence of a thrombus. That is, if the thrombus makes the vein less circular the fragmentation member compensates so that it touches the perimeter of the horizontal cross-section regardless of whether it forms a circle.

As claim components should not be interpreted to be redundant, *Boeing Co. V. U.S.*, 57 Fed. Cl. 22, 28 n9 (Fed. Cl. 2003) (*citing Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 93 F.3d 1572, 1578 (Fed. Cir. 1996)), conforming to the "shape" relates to a different function of the fragmentation member. Conforming with the shape refers to the capability of the fragmentation member to automatically adjust to remain in contact with the sides of the inner lumen along its length, i.e. a 'vertical' cross-section. See 191 patent Col. 3 Lns. 4-9 (describing a three dimensional basket expanding and applying pressure against the thrombus). Indeed, as the specification notes that the device conforms to the inner dimensions of the vessel lumen, the Court concludes that the device expands to be similar to the lumen in three dimensions. *Id.* Col. 2 Lns 65-66.

This means that if the vessel curves, then the fragmentation member curves and if a thrombus exists, then it automatically expands to compensate for the varying size of the thrombus along the length of the vessel. Conforming to the shape of the inner lumen means that the fragmentation member conforms to the diameter across many horizontal cross-sections at once even though the individual cross-section diameters may vary. That is, looking at a cross section along the 'length' of the vessel, the fragmentation member conforms to that shape.

Datascope points the Court to *Nystrom v. TREX Co., Inc.*, 424 F.3d 1136 (Fed. Cir. 2005), where the Court sought to define the meaning of the noun, "board." That Court noted that the descriptions in the specification informed the construction of the term "board" and to what it referred. The phrase at issue here, however, involves only function, there is no indication in the claim or elsewhere that this particular phrase defines or somehow limits the structure which accomplishes that function. The structure is left to the discussion above construing the term "fragmentation member." Accordingly, the phrase "expands to conform to the shape and diameter of the inner lumen" means that the fragmentation member in the 191 and 551 patents and the distal end in the 704 patent expands and adjusts to remain in contact with the inner lumen in three dimensions along its length and width.

III. Conclusion

The disputed phrases are construed to have the following meanings, a "fragmentation member" is a wire cage or basket (or their equivalents) that breaks up clots, and "expands to conform to the shape and diameter of the inner lumen" means that the fragmentation member in the 191 and 551 patents and the distal end in the 704 patent expands and adjusts to remain in contact with the inner lumen in three dimensions along its length and width.

May 30, 2007
Date

_____/s/
William D. Quarles, Jr.
United States District Judge